



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,930	02/11/2004	Philip Ted Kortum	1033-LB1040	2364

60533 7590 04/03/2007  
TOLER SCHAFFER, LLP  
8500 BLUFFSTONE COVE  
SUITE A201  
AUSTIN, TX 78759

EXAMINER
----------

WANG, CLAIRE X

ART UNIT	PAPER NUMBER
----------	--------------

2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/776,930		KORTUM ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Claire Wang		2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton et al. (US 5,692,068 hereinafter "Bryenton") in view of Nishito et al. (US 4,464,786 hereinafter "Nishito") further in view of Ohnishi et al. (US 4,611,345 hereinafter "Ohnishi").

As to claim 1, Bryenton teaches a personal bill denomination reader (portable hand-held bank note reader; Col. 1, lines 12-13) comprising, a memory (21 Fig. 2), a pattern recognizer to match the image of the bill to one of the built-in images in the memory (matching the obtained pattern with the patterns stored; Col. 2, lines 41-44); and at least one output device to report the denomination of the bill based on the match from the pattern recognizer (providing output signal means after the comparison has been made; Col. 2, lines 18-25). However, Bryenton teaches capturing an image of the bill using CCD and does not teach capturing an image of a bill using a camera. Nishito teaches a system to identify currency notes using a line sensor. Nishito also

Art Unit: 2624

teaches that it is possible to use a two-dimensional video camera to replace the line sensor (Col. 14, lines 29-32). Thus, the video camera input of Nishito reads on the claimed camera input. Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to replace the CCD of Bryenton with a video camera of Nishito since they are considered interchangeable.

Bryenton also does not teach the memory stores at least eight built-in images per bill denomination for a plurality of bill denominations, the at least eight built-in images comprising a corresponding image for each of four corners for each of two sides of the bill denomination. Ohnishi teaches a bill identifier device that divides the region of the bill into zones (Fig. 7) and each zone is identified and matched to verify that it has the same amount. Each side of the paper bill is has four zones (zone 11, 12, 21, and 22) and each is compared and matched with the content in memory (Fig. 9). Since each paper bill has two sides thus each bill will contain eight zones. Thus Ohnishi's zones read on the claimed eight built-in images of four corners for the bill denomination. Therefore it would have been obvious for one ordinarily skilled in the art at the time of the invention to combine Bryenton's portable hand-held paper bill reader with Ohnishi's zone identifier so that even when a paper bill is ripped or stained using all eight sections of the paper bill it is still possible to identify the bill amount (Ohnishi Col. 1, lines 25-30).

As to claim 3, Bryenton teaches wherein an output selector to determine a mode to report the denomination of the bill (provide a synthesized voice indication of the denomination of the bank note; Col. 4, lines 27-32).

As to claim 4, Bryenton teaches wherein the output selector has a tactile output mode, an audible tone mode, and a speech mode (the output speakers can be replaced by a tactile device or other suitable output device; Col. 4, lines 50-51).

As to claim 5, Bryenton teaches wherein the at least one output device comprises a tactile output device to vibrate in a pattern unique to the denomination of the bill (the output speakers can be replaced by a tactile device or other suitable output device; Col. 4, lines 50-51).

As to claim 9, it differs from claim 1 in that claim 9 does not teach about the memory storing at least 8 different images of the bill, and claim 9 further teaches of a tactile output device to generate a tactile output unique to the denomination of the bill based on the match from the pattern recognizer (the output speakers can be replaced by a tactile device or other suitable output device; Bryenton Col. 4, lines 50-51).

As to claim 14, it differs from claim 1 in that claim 14 only teaches the memory section of claim 1. Please see the memory analysis of claim 1 for detail analyses.

Art Unit: 2624

3. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton, Nishito and Ohnishi as applied to claims 1, 3-5, 9 and 14 above, and further in view of Abe (US 4,984,280).

As to claim 2, Bryenton teaches wherein the pattern recognizer is to use a pattern-matching algorithm to match the image of the bill to one of the built-in images (Bryenton Col.2, lines 41-44). However Bryenton does not teach using rotation-invariant to correct the image. Abe teaches a bill discriminating apparatus that corrects the rotation of the bill if the paper bill differs from the one stored in memory (Fig. 2). Thus the rotation correction of Abe reads on the claimed rotation-invariant. Therefore, it would have been obvious for one ordinarily skilled in the art at the time of the invention was make to combine Bryenton's portable bank-note reader with the rotation correction of Abe in order to discriminate the bills with high accuracy (Abe Col. 1, lines 7-8).

As to claim 13 is the same as claim 2. Please see claim 2 for detail analysis.

Art Unit: 2624

4. Claims 6, 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton, Nishito and Ohnishi as applied to claims 1, 3-5, 9 and 14 above, and further in view of Rhoads et al. (US 6,278,441 hereinafter "Rhoads").

As to claim 6, Bryenton, Nishito and Ohnishi teach the output can be a tactile device or other suitable output device (Bryenton Col. 4, lines 50-51). However, they do not teach the tactile output device is a dynamic Braille display to generate a Braille representation of the denomination of the bill. Rhoads teaches a monetary denomination reader for the visually impaired. The reading device can communicate with a Braille output device (Col. 7, lines 5-11). Thus the Braille output device of Rhoads reads on the claimed Braille display. Therefore, it would have been obvious for one ordinarily skilled in the art at the time of the invention to further include the Braille output device of Rhoads with the portable bill reader that has a tactile output device, since the Braille output device belongs in the same group as tactile output devices.

As to claim 7, Rhoads teaches wherein the at least one output device comprises a pressure display having a component that rises and lowers in a pattern unique to the denomination of the bill (Rhoads shows that the output device for his monetary reader is a Braille output, by the definition of Braille each character or number is coded using a series of dots in a specific way, thus by having a Braille output it is clear that each unique denomination would be communicated to the user; Col. 7, lines 5-11).

As to claim 10, Bryenton teaches wherein the tactile output device is to vibrate in a pattern unique to the denomination of the bill (a tactile device or other suitable output device; Bryenton Col. 4, lines 50-51).

As to claims 11 and 12, they are the same as claims 6 and 7. Please see above for detail analysis.

5. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton, Nishito and Ohnishi as applied to claims 1, 3-5, 9 and 14 above, and further in view of Slotkin et al. (US 2005/0103838 hereinafter "Slotkin").

As to claim 8, Bryenton, Nishito and Ohnishi do not teach wherein a key fob is used to house the memory, the camera, the pattern recognizer, and the at least one output device. However, by definition, a key fob is a decorative item that many people carry with their keys. Almost anything maybe used as a key fob. Slotkin teaches a key fob device that has storing capabilities and the ability to send and receive images (Paragraph [0030]). Although Slotkin does not teach all of the capabilities of the claimed invention it is obvious that the other capabilities of the invention may be added. Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the key fob memory stick of Slotkin with the portable bill reader of Bryenton, Nishito and Ohnishi to facilitate easy carrying (Slotkin [0030], line 13).



As to claim 15, it differs from claim 8 in that claim 15 further teaches the output device is a tactile output device (a tactile device or other suitable output device; Bryenton Col. 4, lines 50-51).

6. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton, Nishito and Ohnishi as applied to claims 1, 3-5, 9 and 14 above.

As to claim 16, Bryenton, Nishito and Ohnishi teach a personal bill denomination reader. Claim 16 differs from claim 9 in that Bryenton, Nishito and Ohnishi does not expressly disclose the personal bill denomination reader is in a mobile telephone and the tactile output device further to vibrate to alert of an incoming telephone call. However, Examiner takes Official Notice that vibrate alert of a mobile phone, memory of a mobile phone and camera on a mobile phone is well known in the art. It would have been obvious at the time of the invention was made to one of ordinary skill in the art to put the portable bank-not reader of Bryenton in a mobile phone since Examiner takes official notice that vibrate alert of a mobile phone, memory of a mobile phone and camera on a mobile phone is well known in the art.

As to claims 17-18, they are the same as claims 14, 13 with the exception of putting them in a mobile phone, which was discussed above in claim 16. Please see claim 16 for detail analysis of the mobile phone portion of the claims.

Art Unit: 2624

7. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryenton, Nishito and Ohnishi as applied to claims 16-18 above, and further in view of Armanto et al. (US 6,094,587 hereinafter "Armanto").

As to claim 19, Bryenton teaches the speakers for reading the denomination can be replaced by a tactile device or other suitable output device (Col. 4, lines 50-51). However Bryenton does not teach of an output selector to determine a mode to report the denomination of the bill. Armanto teaches a ring tone selector for the user to choose (Col. 1, lines 37-41). Thus the ring tone selector of Armanto reads on the claimed output selector. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to let the user choose the output of his or her liking (Armanto Col. 1, lines 35-36).

As to claim 20, Bryenton teaches wherein the output selector has a tactile output mode, an audible tone mode, and a speech mode (the speakers for reading the denomination can be replaced by a tactile device or other suitable output device; Col. 4, lines 50-51).

As to claim 21, Armanto teaches an audible ringer to alert of an incoming telephone call, the audible ringer to generate one or more distinctive, non-speech tones unique to the denomination of the bill based on the match from the pattern recognizer if the output selector is in the audible tone mode (Col. 1, lines 37-41).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawakami (4,823,393) teaches a bill discriminating device.

Yamaguchi et al. (4,817,185) teaches an optical character reader.

Finkel et al. (4,442,541) teaches a method for sensing the denomination of paper currency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Claire Wang whose telephone number is 571-270-1051. The examiner can normally be reached on Mid-day flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Claire Wang  
04/01/2007



JOSEPH MANCUSO  
PATENT EXAMINER